

REMARKS

This responds to the Office Action mailed on September 7, 2004.

Claims 1, 3, 10, 13 and 16 are amended, claims 19–29 are canceled, and no claims are added; as a result, claims 1–18 are now pending in this application.

Information Disclosure Statement

Applicant submitted an Information Disclosure Statement and a 1449 Form on September 1, 2004. Applicant respectfully requests that an initialed copy of the 1449 Form be returned to Applicant's Representatives to indicate that the cited references have been considered by the Examiner.

Affirmation of Election

Restriction to one of the following claims was required:

Group I: Claims 1-18

Group II: Claims 19-29

As provisionally elected by Applicants representative, Charles E. Steffey, on September 1, 2004, Applicant elects to prosecute the invention of Group I, claims 1-18.

The claims of the non-elected invention, claims 19-29, are hereby canceled. However, Applicant reserves the right to later file continuations or divisions having claims directed to the non-elected inventions.

Objection to the Abstract

The Abstract was objected to as reflecting more than the invention claimed in the application, due to Applicant's election of claims Group I. An amendment to the Abstract has been proposed. Without prejudice or disclaimer, the Abstract of the Disclosure has now been amended. Should further amendment be necessary, the Applicants would be pleased to rely on the Examiner for guidance in this matter, and actively solicit the comments of the Examiner in this regard. Finally, it should be noted that the amended Abstract of the Disclosure is provided so as to comply with 37 C.F.R. §1.72(b), requiring an abstract that will allow the reader to

quickly ascertain the nature of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims.

Objection to the Specification

The specification was objected to as not including a summary of the invention. Applicants respectfully traverse the objection on the grounds that a “summary of the invention” is not a statutory requirement for a patent application. Rule 73 also does not make such a summary mandatory since it states that “Such a summary should, *when set forth*, ..” – implying that no summary must be set forth. Reconsideration and withdrawal of the objection is requested.

Objections to the Drawings

The drawings were objected to as not showing every feature of the invention specified in the claims. The drawings were also objected to as not including reference number 18, as described on page 5, line 3 of the specification. Reconsideration and allowance is requested in view of the revision of the drawings to add FIG 2A which shows what was already described in the specification and claims.

§112 Rejection of the Claims

Claims 6, 10, 11, 14, and 16 were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art to which it pertains, or with which it is most nearly connected, that the inventors, at the time the application was filed, had possession of the claimed invention. Reconsideration and withdrawal of the objection is requested in view of the amendments to the specification to specifically include the subject matter disclosed and claimed in claims 6, 10, 11, 14 and 16 as originally filed. Such an amendment does not introduce new matter.

Claims 16-18 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The proposed amendment to claim 16 removes an unnecessary element

and provides a proper antecedent basis for all of the remaining elements of claim 16.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 6, 10, 11, 14, and 16 were further rejected in the final paragraph of the section of the Office Action page 8, lines 11–14. Reconsideration and allowance of those claims is requested in view of the amendments proposed. The wireless transceiver has been removed as an element of claim 16. Claim 10 has been amended to remove the statement that the heat sink material is softer than the carbon nanotubes and that language from claim 10 has been added to the specification (without adding new matter).

§102 Rejection of the Claims

Claims 1-7 and 9-15 were rejected under 35 USC § 102(e) as being anticipated by Dubin et al. (U.S. 2004/0150100-A1). Applicants respectfully traverse the rejection for the reasons stated below.

Applicants do not admit that the cited published patent application to Dubin et al is prior art, and reserve the right to swear behind it at a later date. Nevertheless, Applicant respectfully submits that the claims are distinguishable over Dubin et al for the reasons argued below.

The cited Dubin publication relates to a method to fabricate a carbon nanotube thermal interface grown from a porous alumina template applied to the backside of the circuit die.

Amended claim 1 calls for apparatus where the array of carbon nanotubes is formed on the buffer layer on the heat spreader. Since that feature is not shown or suggested by the cited Dubin et al publication, amended claim 1 is not anticipated by Dubin et al. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990)

Independent claim 13, as amended, is also distinguishable since it calls for “an array of nanotubes formed above the buffer layer” and states that the buffer layer is “formed above a surface of a heat spreader.”

The other rejected claims are dependent upon claims 1 and 13 and are distinguishable from Dubin et al for the same reasons as those claims and for additional reasons which Applicants reserve the right to enumerate later, if necessary.

Reconsideration and allowance of claims 1 –7 and 9–15 is respectfully requested.

§103 Rejection of the Claims

Claim 8 was rejected under 35 USC § 103(a) as being unpatentable over Dubin in view of Mahajan (U.S. 2002/010507-A1). Applicants respectfully traverse the rejection for the reasons stated below.

Claims 16-18 were rejected under 35 USC § 103(a) as being unpatentable over Mahajan in view of Dubin et al.

Applicant respectfully submits that Dubin et al is not prior art with respect to claims 8 and 16-18 of the present application. A reference asserted under 102(e) that was commonly owned with an application at the time the invention was made, cannot preclude patentability under 35 U.S.C. 103 of the claims of the application when the application was filed on or after November 29, 1999. *35 U.S.C. 103(c); 1233 OG 55 (April 11, 2000)*. The present application was filed on June 30, 2003, which is after November 29, 1999. Dubin et al and the present application were, at the time the invention was made, owned by, or subject to an obligation of assignment to, Intel Corporation, which the same person.

Applicant respectfully requests reconsideration and allowance of claims 8, and 16-18.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6970) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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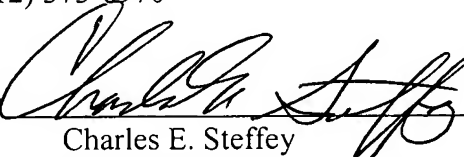
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March 7, 2005

By



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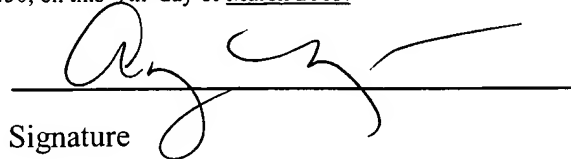
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 7th day of March 2005.

Name

Amy Moriarty

Signature



IN THE DRAWINGS

Corrected drawings are supplied herewith, each labeled as "REPLACEMENT SHEET".

Figure 1 has been amended by adding reference character 18.

Figure 2A has been added to illustrate the embedding of ends of nanotubes in the surface of the heat spreader as disclosed in claim 10.